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| 10/014,619      | 12/10/2001  | Paul L. Frattini     | 9842-306-999        | 4759             |

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| EXAMINER |
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PALABRICA, RICARDO J

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| ART UNIT | PAPER NUMBER |
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3641

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/014,619

Applicant(s)

FRATTINI ET AL.

Examiner

Rick Palabrica

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 21-36 is/are pending in the application.
- 4a) Of the above claim(s) 27 and 28 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-26 and 29-36 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's amendment in Paper No. 11, which adds new claims 30-36, is acknowledged. This amendment is in response to the 6/9/03 Office Action.
2. Applicant traversed the use of Kato et al. (U.S. 5,467,791) in the rejection of the claims on the grounds that, "they do not teach or suggest the use of transducers that produce omnidirectional ultrasonic energy waves, as recited in independent Claim 1." Applicant alleges that "the physical arrangement of the transducers as taught by Kato is indicative of transducers that produce planar energy waves." Underlining provided. Applicant further alleges that Kato et al. teach that the transducers have to be arranged in a particular manner to direct their ultrasonic waves toward a given side of the channel box, and these waves are incident at right angles to the channel box. Applicant avers that the only way in which waves can be incident at right angles in Kato et al. is by production of a planar energy wave.

Applicant's arguments have been fully considered but they are not persuasive because the feature(s) upon which the applicant relies are not recited in rejected claim(s). Note from the above statements by the applicant that the planar waves in Kato et al. are those that arrive at the intended target (i.e., channel box that supports a fuel assembly). The claims do not provide any limitation relating to the shape of the ultrasonic waves at the channel box. To the contrary, the limitation pertains to the shape of the ultrasonic waves at the source, i.e., transducers. Claim 21, for example, recites "a plurality of ultrasonic transducers that each produce omnidirectional energy waves."

Each transducer in Kato et al. inherently produces omnidirectional ultrasonic waves, and the physical arrangement of the transducers result in these omnidirectional waves becoming planar waves by the time they arrive at the target (channel box). Such transformation in geometry may be due to interferences among the waves during their travel from the source to the target.

Applicant also alleges that Kato et al. does not teach a plurality of transducers positioned along an entire length of a housing. The examiner disagrees because Kato shows in Fig. 9 an arrangement of transducers positioned along an entire length of the housing 127, that receives nuclear fuel assembly 105. Note that if the applicant's interpretation of "transducers positioned along an entire length of the housing" is the arrangement as shown in his Fig. 1 wherein there are wide gaps between ultrasonic transducers 22, which transducers cover less than one-half of the housing 24, then Kato et al.'s transducer configuration adequately meets the claim limitation. On the other hand, if his interpretation were not as that shown in Fig. 1, then this would raise a non-enablement issue.

Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

.Additionally, if said unrecited features are considered by the applicant to be critical to his invention, then such omission would amount to a gap between the essential elements. In this case, the claim(s) would be incomplete and would be rejected under 35 U.S.C. 112, second paragraph. See MPEP § 2172.01.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21-26 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato et al. (U.S. 5,467,791), in view of the combination of Walter et al. (U.S. 5,200,666). Kato et al. disclose the applicant's claims except for the transducer being an elongated bar with a first end and a second end..

The claims are replete with statements that are either essentially method limitations or statements of intended or desired use. Examples include, "for cleaning an irradiated nuclear fuel assembly", "to receive an irradiated nuclear fuel assembly", "to support said elongated housing", etc. These clauses, as well as other statements of intended use do not serve to patentably distinguish the claimed structure over that of the reference, as long as the structure of the cited references is capable of performing the intended use. See MPEP 2111-2115.

See also MPEP 2114 that states:

A claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647.

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Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 263 F.2d 844, 847, 120 USPQ 528, 531.

[A]pparatus claims cover what a device is, not what a device does.”  
Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528.

As set forth in MPEP 2115, a recitation in a claim to the material or article worked upon does not serve to limit an apparatus claim.

The apparatus cited below is capable of being used in the same manner and for the intended or desired use as the claimed invention.

Kato et al. disclose an ultrasonic cleaning device for a BWR fuel assembly comprising an elongated housing 127, and a plurality of ultrasonic transducers 111 positioned inside said housing (e.g., see Fig. 6). There is a base plate 134 that is attached to the bottom of the elongated housing 127.

Walter teaches in Fig. 1 a transducer comprising an elongated rod having a first end and a second, with ultrasonic generators 5,6 at said ends. Walter et al. further teach that their invention can emit twice the amount of ultrasonic energy compared to other transducers with the same geometric dimensions (see column 2, lines 1+).

One having ordinary skill in the art would have recognized that both references are in the same field of endeavor, i.e., ultrasonic cleaning. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus, as disclosed by Kato et al., by the teaching of Walter et al. to have a plurality of ultrasonic transducers each comprising an elongated rod with a transducer at a first end and another transducer at the second end, to gain the

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advantages thereof (i.e., more effective ultrasonic energy generation)), because such modification is no more than the use of a well-known type and configuration of ultrasonic transducers for cleaning nuclear components, including spent fuel assemblies.

### ***Claim Rejections – Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 21-26 and 29-36 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 and 24-35 of U.S. Patent No. 6,396,892 B1. Although the conflicting claims are not identical, they are not patentably distinct from each other because they are based on the same specification and figures, and the elements of the subject claims of this application are either recited in the claims of the previous patent or read on the embodiments described in the previous patent.

***Conclusion***

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rick Palabrica whose telephone number is 703-306-5756. The examiner can normally be reached on 7:00-4:30, Mon-Fri; 1st Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 703-306-4198. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.



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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

RJP  
December 1, 2003



MICHAEL J. CARONE  
SUPERVISORY PATENT EXAMINER